



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 157674

TO: Shailendra Kumar
Location: 5c03 / 5c18
Thursday, June 30, 2005
Art Unit: 1621
Phone: 571-272-0640
Serial Number: 10 / 656706

From: Jan Delaval
Location: Biotech-Chem Library
Remsen 1a51
Phone: 571-272-2504

jan.delaval@uspto.gov

Search Notes

Jan Pleas

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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: S. Kumar Examiner #: 64594 Date: 6/28/05
 Art Unit: 1621 Phone Number: 2-0640 Serial Number: 101 656 706
 Location (Bldg/Room#): REM 10 (Mailbox #): 5003 Results Format Preferred (circle) PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: N-vinylformamide derivatives, polymers

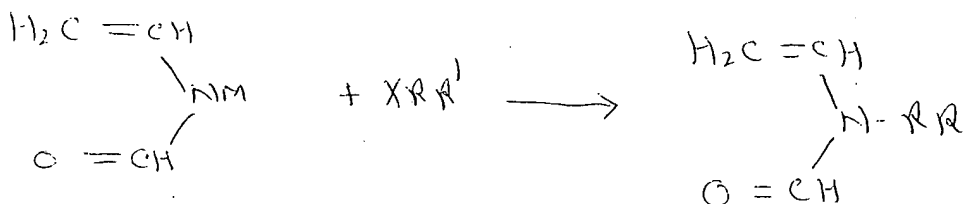
Inventors (please provide full names): Eric Beckman et al.

Earliest Priority Date: 9/6/02

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.



X is H₂O

M is alkali metal or alkaline earth metal.

R' is C₆-C₂₅ alkylene group

R² is H provided, R' is not absent
alkyl etc.

Please see claims 1-10

STAFF USE ONLY

Searcher: Jan Type of Search NA Sequence (#)

Searcher Phone #: 22504 AA Sequence (#)

Searcher Location: 6130105 Structure (#)

Date Searcher Picked Up: 6/30/05 Bibliographic

Date Completed: 6/30/05 Litigation

Searcher Prep & Review Time: 15 Fulltext

Online Time: RS Other

Vendors and cost where applicable

STN Dialog

Questel/Orbit Lexis/Nexis

Westlaw WWW/Internet

In-house sequence systems

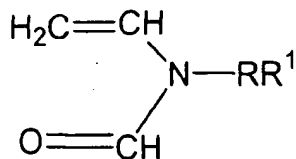
Commercial Oligomer Score/Length

Interference SPDI Encode/Transl

Other (specify)

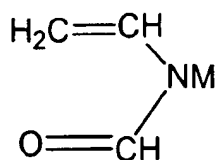
WHAT IS CLAIMED IS:

1. A method of synthesizing a compound having the formula:



comprising the step of:

reacting a N-vinylformamide salt having the formula



L19

with a compound having the formula XRR^1 ; wherein X is Br, Cl or I, M is an alkali metal or an alkali earth metal, R^1 is a C0-C25 alkylene group, a C0-C25 fluoroalkylene group or a C0-C25 perfluoro alkylene group, R^2 is H, provided R^1 is not absent, an alkyl group, a fluoroalkyl group, a perfluoroalkyl group, an aryl group, a hydroxy group, a polyether group, a heterocyclic group of 5 or 6 atoms wherein at least one of the atoms is not a carbon and is N, O, or S, $-\text{OR}^3$, wherein, R^3 is an alkyl group, a fluoroalkyl group, a perfluoroalkyl group, or an aryl group, $-\text{C}(\text{O})\text{R}^4$, $-\text{C}(\text{O})\text{OR}^4$, $-\text{OC}(\text{O})\text{R}^4$, wherein R^4 is an H, an alkyl group, a fluoroalkyl group, a perfluoroalkyl group, or an aryl group, a phthalimide group or NR^5R^5 wherein R^5 and R^5 are independently H, $-\text{C}(\text{O})\text{R}^4$, an alkyl, a fluoroalkyl group, a perfluoroalkyl group or an aryl group.

2. The method of claim 1 wherein the N-vinylformamide salt is formed by reacting an alkali metal base or an alkali earth metal base with N-vinylformamide.
3. The method of claim 2 wherein the alkali metal base is *t*-BuOK and the N-vinylformamide salt is N-vinylformamide potassium salt.
4. The method of claim 1 wherein X is Br.
5. The method of claim 1 wherein R^1 is a C1-C10 alkylene group.
6. The method of claim 1 wherein R^2 is a C1-C10 alkyl group.

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:10:55 ON 30 JUN 2005
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 29 JUN 2005 HIGHEST RN 853295-05-3
DICTIONARY FILE UPDATES: 29 JUN 2005 HIGHEST RN 853295-05-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que l11
L9 STR

CH2=CH-N-CHO
1 2 3 4

NODE ATTRIBUTES:
CONNECT IS M1 RC AT 3
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE
L11 688 SEA FILE=REGISTRY CSS FUL L9

100.0% PROCESSED 58822 ITERATIONS
SEARCH TIME: 00.00.01

688 ANSWERS

=> d his

(FILE 'HOME' ENTERED AT 12:41:09 ON 30 JUN 2005)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 12:42:21 ON 30 JUN 2005

L1 1 S US20040167338/PN OR (US2003-656706# OR WO2003-US27732 OR US20
E BECKMAN E/AU
L2 264 S E3,E6,E12-E18
E CHAPMAN T/AU
L3 20 S E3,E12
L4 59 S E47-E49
E SHI L/AU
L5 292 S E3-E19
E SHI LIAN/AU
L6 1 S E8
L7 14 S E33
SEL RN L1

FILE 'REGISTRY' ENTERED AT 12:45:09 ON 30 JUN 2005

L8 26 S E1-E26

FILE 'HCAPLUS' ENTERED AT 12:48:35 ON 30 JUN 2005

FILE 'REGISTRY' ENTERED AT 12:48:48 ON 30 JUN 2005

L9 STR
L10 16 S L9 CSS SAM
L11 688 S L9 CSS FUL
SAV TEMP L11 KUMAR656/A
L12 55 S L11 AND (NA OR K)/ELS
L13 3 S L12 AND 2/NC
L14 1 S 13162-05-5
L15 562 S 13162-05-5/CRN
L16 562 S L11 AND L15
L17 52 S L12 AND L16
L18 2 S L17 NOT PMS/CI
L19 4 S L16 NOT PMS/CI
L20 126 S L11 NOT L16
L21 68 S L20 NOT PMS/CI

FILE 'HCAPLUS' ENTERED AT 13:06:12 ON 30 JUN 2005

L22 1 S L18
L23 261 S L20
L24 1 S L22 AND L23

FILE 'REGISTRY' ENTERED AT 13:06:36 ON 30 JUN 2005

L25 16 S L8 AND L11
L26 14 S L25 NOT L18

FILE 'HCAPLUS' ENTERED AT 13:07:16 ON 30 JUN 2005

L27 1 S L26 AND L22

FILE 'REGISTRY' ENTERED AT 13:07:44 ON 30 JUN 2005

L28 10 S L8 NOT L25,L26
L29 8 S L28 AND (CL OR BR OR I OR F)/ELS
L30 2 S L28 NOT L29

FILE 'HCAPLUS' ENTERED AT 13:10:06 ON 30 JUN 2005

L31 1 S L8 AND L27

FILE 'USPATFULL, USPAT2' ENTERED AT 13:10:28 ON 30 JUN 2005

L32 1 S L18

L33 1 S L11 AND L32

FILE 'REGISTRY' ENTERED AT 13:10:55 ON 30 JUN 2005

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 13:11:05 ON 30 JUN 2005

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FILE COVERS 1907 - 30 Jun 2005 VOL 143 ISS 1

FILE LAST UPDATED: 29 Jun 2005 (20050629/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l31 all hitstr

L31 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:220302 HCAPLUS

DN 140:254056

ED Entered STN: 19 Mar 2004

TI N-vinylformamide derivatives, (co)polymers, and their synthesis

IN Beckman, Eric J.; Chapman, Toby M.; Shi, Lianjun

PA University of Pittsburgh, USA

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07C231-00

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 23, 46

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004022524	A2	20040318	WO 2003-US27732	20030905
	WO 2004022524	A3	20040506		
	WO 2004022524	C2	20040624		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,				

jan delaval - 30 june 2005

BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 US 2004167338 A1 20040826 US 2003-656706 20030905
 PRAI US 2002-408730P P 20020906
 US 2003-484948P P 20030703

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004022524	ICM	C07C231-00
WO 2004022524	ECLA	C08F026/02
US 2004167338	NCL	546/336.000; 548/571.000; 562/450.000; 564/215.000
	ECLA	C08F026/02

OS MARPAT 140:254056

AB A method of synthesizing a vinylformamide compound $H_2C:CHN(RR_1)COH$, comprises the step of reacting a N-vinylformamide salt $H_2C:CHN(M)COH$, with XRR_1 ; where X = Br, Cl or I, M = alkali metal or an alkali earth metal, R_1 = C0-25 alkylene group, a C0-25 fluoroalkylene group or a C0-25 perfluoro alkylene group, R = H, provided R_1 is not absent, alkyl, fluoroalkyl, perfluoroalkyl, aryl, OH, a polyether group, a heterocyclic group of 5 or 6 atoms where ≥ 1 of the atoms is not a C and is N, O, or S, OR_3 , where R_3 = alkyl, fluoroalkyl, perfluoroalkyl, or aryl, $C(O)R_4$, $C(O)OR_4$, $OC(O)R_4$, where R_4 = H, alkyl, fluoroalkyl, perfluoroalkyl, or aryl, a phthalimide group or NR_5R_5 where R_5 and R_5 = H, $C(O)R_4$, alkyl, fluoroalkyl, perfluoroalkyl or aryl group. N-hexyl-N-vinylformamide (preparation described, 1.0 g) and initiator AIBN (18 mg) were polymerized in

an oil bath at a constant temperature 65° 15 h, the polymer ($8.3 + 10^{-3}$ g/mol) obtained was purified with petroleum ether and dried under reduced pressure at 600° for 12 h.

ST alkyl vinylformamide deriv manuf polymn

IT Amphiphiles

(N-vinylformamide copolymer with emulsion stabilizing property)

IT 671224-51-4P 671224-52-5DP, hydrolyzed
 671224-52-5P 671224-53-6P 671224-54-7DP,
 hydrolyzed 671224-54-7P 671224-60-5DP, reaction
 products with polyvinylamine

RL: IMF (Industrial manufacture); PREP (Preparation)

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

IT 671224-60-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

IT 109-65-9, 1-Bromobutane 111-25-1, 1-Bromohexane
 112-29-8, 1-Bromodecane 143-15-7, 1-Bromododecane
 335-64-8, Pentadecafluorooctanoyl chloride 574-98-1
 5292-43-3 13162-05-5, N-Vinylformamide

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

IT 671224-56-9P 671224-58-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and hydrolysis; alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

IT 192058-10-9P 671224-48-9P 671224-49-0P
 671224-50-3P 671224-55-8P 671224-57-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and polymerization; alkyl N-vinylformamide derivs. and their polymer

products, some with surfactant properties)

IT 671224-46-7P 671224-61-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (reaction with alkylbromide; alkyl N-vinylformamide derivs. and their
 polymer products, some with surfactant properties)

IT 6066-82-6, N-Hydroxysuccinimide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with pentadecafluorooctanoyl chloride; alkyl N-vinylformamide
 derivs. and their polymer products, some with surfactant properties)

IT 26336-38-9DP, Poly(vinylamine), reaction products with
 perfluoroalkyl compound
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (reduction; alkyl N-vinylformamide derivs. and their polymer products, some
 with surfactant properties)

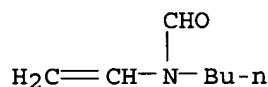
IT 671224-59-2P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (surfactant; alkyl N-vinylformamide derivs. and their polymer products,
 some with surfactant properties)

IT 671224-51-4P 671224-52-5DP, hydrolyzed
 671224-52-5P 671224-53-6P 671224-54-7DP,
 hydrolyzed 671224-54-7P 671224-60-5DP, reaction
 products with polyvinylamine
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (alkyl N-vinylformamide derivs. and their polymer products, some with
 surfactant properties)

RN 671224-51-4 HCAPLUS
 CN Formamide, N-butyl-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

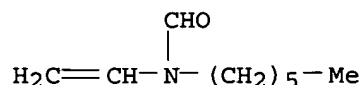
CRN 192058-10-9
 CMF C7 H13 N O



RN 671224-52-5 HCAPLUS
 CN Formamide, N-ethenyl-N-hexyl-, homopolymer (9CI) (CA INDEX NAME)

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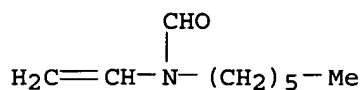
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RN 671224-52-5 HCAPLUS
 CN Formamide, N-ethenyl-N-hexyl-, homopolymer (9CI) (CA INDEX NAME)

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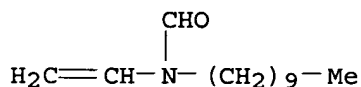
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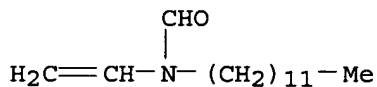
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CMF C13 H25 N O



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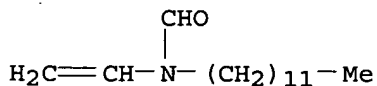
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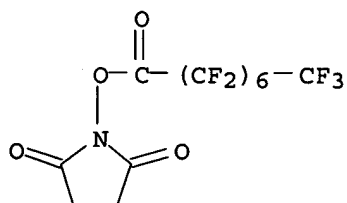
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CN Formamide, N-dodecyl-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 671224-50-3
CMF C15 H29 N O



RN 671224-60-5 HCAPLUS
CN 2,5-Pyrrolidinedione, 1-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)oxy]- (9CI) (CA INDEX NAME)



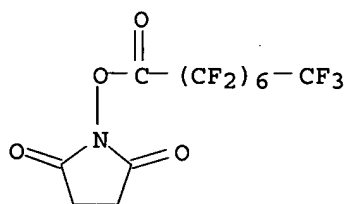
IT 671224-60-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

RN 671224-60-5 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-1-oxooctyl)oxy]- (9CI) (CA INDEX NAME)

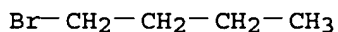
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112-29-8, 1-Bromodecane 143-15-7, 1-Bromododecane
335-64-8, Pentadecafluorooctanoyl chloride 574-98-1
5292-43-3 13162-05-5, N-Vinylformamide

RL: RCT (Reactant); RACT (Reactant or reagent)

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

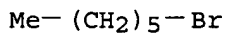
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CN Butane, 1-bromo- (8CI, 9CI) (CA INDEX NAME)



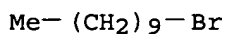
RN 111-25-1 HCAPLUS

CN Hexane, 1-bromo- (6CI, 8CI, 9CI) (CA INDEX NAME)



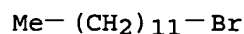
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CN Decane, 1-bromo- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



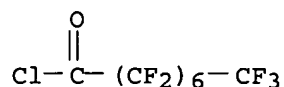
RN 143-15-7 HCAPLUS

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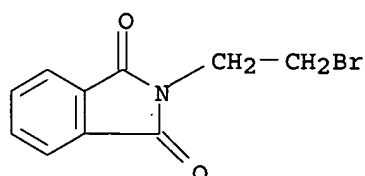
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CN Octanoyl chloride, pentadecafluoro- (7CI, 8CI, 9CI) (CA INDEX NAME)



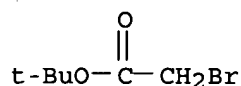
RN 574-98-1 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(2-bromoethyl)- (9CI) (CA INDEX NAME)



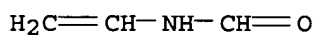
RN 5292-43-3 HCAPLUS

CN Acetic acid, bromo-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 13162-05-5 HCAPLUS

CN Formamide, N-ethenyl- (9CI) (CA INDEX NAME)



IT 671224-56-9P 671224-58-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and hydrolysis; alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

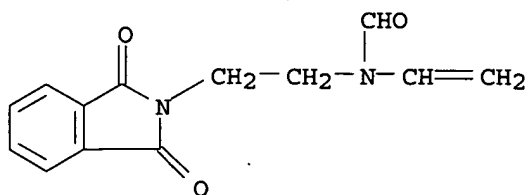
RN 671224-56-9 HCAPLUS

CN Formamide, N-[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl]-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 671224-55-8

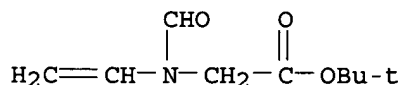
CMF C13 H12 N2 O3



RN 671224-58-1 HCAPLUS
 CN Glycine, N-ethenyl-N-formyl-, 1,1-dimethylethyl ester, homopolymer (9CI)
 (CA INDEX NAME)

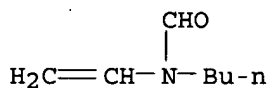
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CRN 671224-57-0
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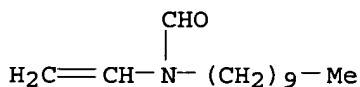


IT 192058-10-9P 671224-48-9P 671224-49-0P
 671224-50-3P 671224-55-8P 671224-57-0P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and polymerization; alkyl N-vinylformamide derivs. and their
 polymer products, some with surfactant properties)

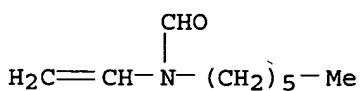
RN 192058-10-9 HCAPLUS
 CN Formamide, N-butyl-N-ethenyl- (9CI) (CA INDEX NAME)



RN 671224-48-9 HCAPLUS
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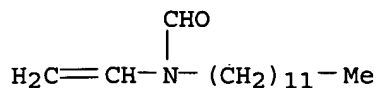


RN 671224-49-0 HCAPLUS
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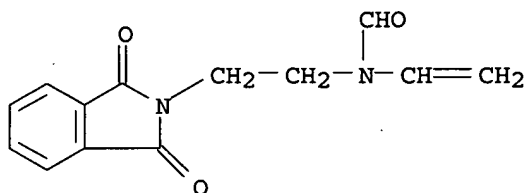
RN 671224-50-3 HCAPLUS

CN Formamide, N-dodecyl-N-ethenyl- (9CI) (CA INDEX NAME)



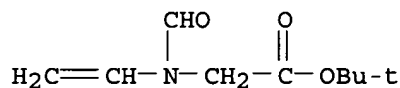
RN 671224-55-8 HCAPLUS

CN Formamide, N-[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl]-N-ethenyl- (9CI) (CA INDEX NAME)



RN 671224-57-0 HCAPLUS

CN Glycine, N-ethenyl-N-formyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



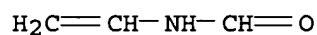
IT 671224-46-7P 671224-61-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(reaction with alkylbromide; alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

RN 671224-46-7 HCAPLUS

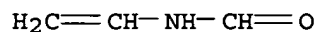
CN Formamide, N-ethenyl-, potassium salt (9CI) (CA INDEX NAME)



● K

RN 671224-61-6 HCAPLUS

CN Formamide, N-ethenyl-, sodium salt (9CI) (CA INDEX NAME)



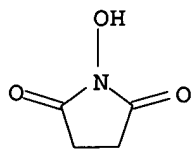
● Na

IT 6066-82-6, N-Hydroxysuccinimide

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with pentadecafluorooctanoyl chloride; alkyl N-vinylformamide
 derivs. and their polymer products, some with surfactant properties)

RN 6066-82-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



IT 26336-38-9DP, Poly(vinylamine), reaction products with
 perfluoroalkyl compound

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)

(reduction; alkyl N-vinylformamide derivs. and their polymer products, some
 with surfactant properties)

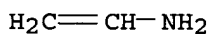
RN 26336-38-9 HCAPLUS

CN Ethenamine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 593-67-9

CMF C2 H5 N



IT 671224-59-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)

(surfactant; alkyl N-vinylformamide derivs. and their polymer products,
 some with surfactant properties)

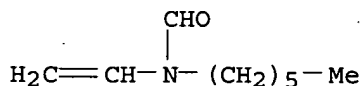
RN 671224-59-2 HCAPLUS

CN Formamide, N-ethenyl-N-hexyl-, polymer with N-ethenylformamide (9CI) (CA
 INDEX NAME)

CM 1

CRN 671224-49-0

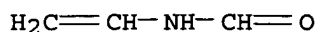
CMF C9 H17 N O



CM 2

CRN 13162-05-5

CMF C3 H5 N O



=> fil uspatall

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=> d 133 bib abs hitstr

L33 ANSWER 1 OF 1 USPATFULL on STN

AN 2004:216229 USPATFULL

TI N-vinylformamide derivatives, polymers formed therefrom and synthesis thereof

IN Beckman, Eric J., Aspinwall, PA, UNITED STATES
Chapman, Toby M., Pittsburgh, PA, UNITED STATES
Shi, Lianjun, Pittsburgh, PA, UNITED STATES

PI US 2004167338 A1 20040826

AI US 2003-656706 A1 20030905 (10)

PRAI US 2002-408730P 20020906 (60)

US 2003-484948P 20030703 (60)

DT Utility

FS APPLICATION

LREP HENRY E. BARTONY, JR., BARTONY & HARE, LLP, LAW & FINANCE BUILDING, 429
FOURTH AVENUE, SUITE 1801, PITTSBURGH, PA, 15219

CLMN Number of Claims: 31

ECL Exemplary Claim: 1

DRWN 3 Drawing Page(s)

LN.CNT 1019

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of synthesizing a compound having the formula: ##STR1##

comprising the step of:

reacting a N-vinylformamide salt having the formula ##STR2##

with a compound having the formula $\text{XRR}^{\text{sup.1}}$; wherein X is Br, Cl or I, M is an alkali metal or an alkali earth metal, $\text{R}^{\text{sup.1}}$ is a C0-C25 alkylene group, a C0-C25 fluoroalkylene group or a C0-C25 perfluoro alkylene group, $\text{R}^{\text{sup.2}}$ is H, provided $\text{R}^{\text{sup.1}}$ is not absent, an alkyl group, a fluoroalkyl group, a perfluoroalkyl group, an aryl group, a hydroxy group, a polyether group, a heterocyclic group of 5 or 6 atoms wherein at least one of the atoms is not a carbon and is N, O, or S, --OR^{sup.3}, wherein, $\text{R}^{\text{sup.3}}$ is an alkyl group, a fluoroalkyl group, a perfluoroalkyl group, or an aryl group, --C(O)R^{sup.4}, --C(O)OR^{sup.4}, --OC(O)R^{sup.4}, wherein $\text{R}^{\text{sup.4}}$ is an H, an alkyl group, a fluoroalkyl group, a perfluoroalkyl group, or an aryl group, a phthalimide group or NR^{sup.5}R^{sup.5} wherein $\text{R}^{\text{sup.5}}$ and $\text{R}^{\text{sup.5}}$ are independently H, --C(O)R^{sup.4}, an alkyl, a fluoroalkyl group, a perfluoroalkyl group or an aryl group.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 671224-51-4P 671224-52-5DP, hydrolyzed

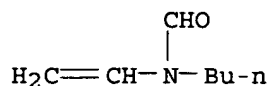
671224-52-5P 671224-53-6P 671224-54-7DP,
hydrolyzed 671224-54-7P

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

RN 671224-51-4 USPATFULL
CN Formamide, N-butyl-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

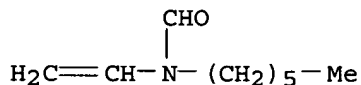
CRN 192058-10-9
CMF C7 H13 N O



RN 671224-52-5 USPATFULL
CN Formamide, N-ethenyl-N-hexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

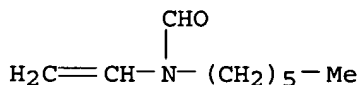
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CMF C9 H17 N O



RN 671224-52-5 USPATFULL
CN Formamide, N-ethenyl-N-hexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

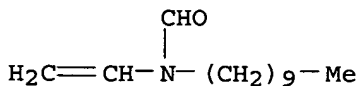
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CMF C9 H17 N O



RN 671224-53-6 USPATFULL
CN Formamide, N-decyl-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 671224-48-9
CMF C13 H25 N O

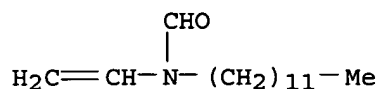


RN 671224-54-7 USPATFULL
CN Formamide, N-dodecyl-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 671224-50-3

CMF C15 H29 N O



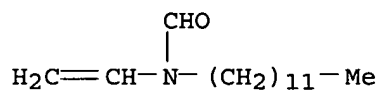
RN 671224-54-7 USPATFULL

CN Formamide, N-dodecyl-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 671224-50-3

CMF C15 H29 N O

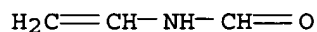


IT 13162-05-5, N-Vinylformamide

(alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

RN 13162-05-5 USPATFULL

CN Formamide, N-ethenyl- (9CI) (CA INDEX NAME)



IT 671224-56-9P 671224-58-1P

(preparation and hydrolysis; alkyl N-vinylformamide derivs. and their polymer products, some with surfactant properties)

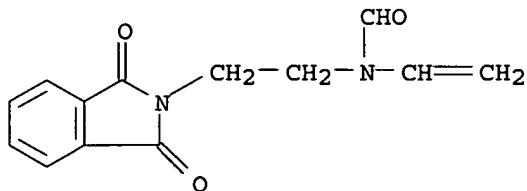
RN 671224-56-9 USPATFULL

CN Formamide, N-[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl]-N-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 671224-55-8

CMF C13 H12 N2 O3



RN 671224-58-1 USPATFULL

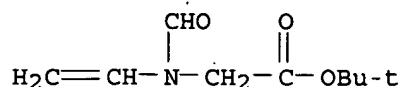
CN Glycine, N-ethenyl-N-formyl-, 1,1-dimethylethyl ester, homopolymer (9CI)

(CA INDEX NAME)

CM 1

CRN 671224-57-0

CMF C9 H15 N O3

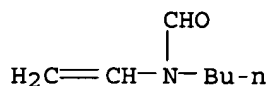


IT 192058-10-9P 671224-48-9P 671224-49-0P
 671224-50-3P 671224-55-8P 671224-57-0P

(preparation and polymerization; alkyl N-vinylformamide derivs. and their
 polymer products, some with surfactant properties)

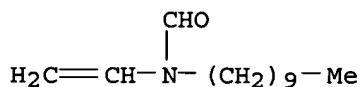
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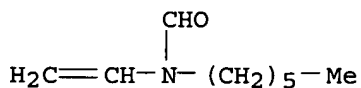
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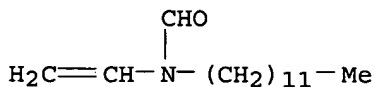
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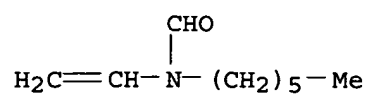
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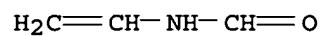


RN 671224-55-8 USPATFULL

CN Formamide, N-[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)ethyl]-N-ethenyl-
 (9CI) (CA INDEX NAME)



CM 2

CRN 13162-05-5
CMF C3 H5 N O

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Creation date: 07-12-2005

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No.	Doccode	Number of pages
1	NOA	3
2	NOA	14
3	892	1
4	IIFW	1
5	BIB	1
6	SRFW	1
7	FWCLM	1

Total number of pages: 22

Remarks:

Order of re-scan issued on